

PATENT SPECIFICATION



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391,054

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Complete Accepted: April 20, 1933.

COMPLETE SPECIFICATION.

Improvement in or relating to Lawn Mowers.

We, AMINNE BRUKS NYA AKTIEBOLAG, a Company duly organized and existing under the Laws of Sweden, of Engelbrektsgatan 11a, Malmö, Sweden, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

- 10 In lawn mowers having a non-rotating knife or blade movable along the soil by means of a cutter bar provided with wheels, and further having a rotating cutting reel operating against the knife or blade of said cutter bar, it is known to mount both the cutter bar and the cutting reel to yield in order to improve the coaction of said members also after wear of the knives or blades so as to reduce the 15 need of re-grinding and change of said knives or blades. However, the known devices have certain defects such as that of causing heavy vibrations of the knives or blades, whereby the result is impaired 20 and the knives or blades are weakened in a relatively short period of time thus causing damages of such a kind as to necessitate a change of the knives or blades.
- 25 It has been found that the deflections mentioned above are essentially caused by the fact that, in the known devices, the strains of the knife or blade of the cutter bar are received over a distance which is too great. The present invention has for its object to provide an improved arrangement by which the strains of said knife or blade are received over a more limited distance, and according to this invention 30 there is provided a lawn mower having a non-rotating knife or blade carried by a cutter bar which is rotatably or rockably mounted by means of pins at the ends of said cutter bar, and further provided with 35 a rotating cutting reel having knives or blades coacting with said non-rotating knife or blade, said non-rotating knife or blade being maintained in yielding engagement with the knives or blades of said cutting reel by springs supported by the cutter bar, characterised by the fact that said springs are positioned at points distributed along the cutter bar, between 40
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said cutter bar and a beam extending along the same and being mounted independently to turn around the same pins as said cutter bar, the position of said beam being adjustable by means of adjusting screws or the like.

The said arrangement has proved to cause a considerable improvement, the machine not only operating better and more easily but the knives also keeping up for a longer period of time, thus enabling of deriving full advantage from the coaction of the knives or blades made possible by the yieldingness of the non-rotating knife or blade and possibly also by the yieldingness of the rotating knives or the cutting reel, also when worn.

An embodiment of the invention is shown in the accompanying drawing, in which

Fig. 1 shows a portion of a lawn mower as viewed in a vertical section transverse to the cutting reel, while

Figs. 2 and 3 show a plan view and a cross section, respectively, of details of the cutter bar on an enlarged scale.

The non-rotating knife or blade 1 is connected in any manner to the cutter bar 2, which is rotatably mounted in the machine frame by means of pins 3 at the ends of said cutter bar. Also a transverse beam 4 parallel with said cutter bar and positioned behind the same is rotatably mounted around said pins 3. The cutter bar 2 is provided with a number of lugs 5 or the like suitably distributed along said cutter bar and projecting backwards beneath the transverse beam 4, compression springs 6, (Fig. 3), being inserted between said lugs and said transverse beam. Said springs which are in the form of screw springs have their ends fitted into suitably shaped seats or recesses provided in the upper surface of the lugs 5 of the cutter bar and the lower surface of the transverse beam 4 as shown especially in Fig. 3.

The springs are maintained under a suitable and controllable pressure by adjusting the position of the transverse beam 4 and retaining said beam in a suitable position by adjusting screws 7 and 8, Fig. 1 (or equivalent means), engaging

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- lugs provided at the ends of said transverse beam and screwed into stationary parts of the machine frame. Therefore, the knife 1 is pressed upwards against the 5 rotating knives or the cutting reel 9 by the action of said springs 6, said knives of the cutting reel, in a manner known per se, being arranged in such a manner as to prevent any of the knives from disengaging the knife 1 until the next knife of said cutting reel has arrived into engagement with said knife 1.
- By the arrangement described the yielding pressure of the knife 1 is received by 15 the springs 6 and the rigid transverse beam 4 and by said arrangement the vibrations otherwise unavoidable have proved to be suppressed and a more satisfactory operation is obtained while the 20 knives or blades keep up for a longer period of time. Preferably both the non-rotating knife 1 and the knives of the cutting reel are yielding themselves, this being no necessary feature however.
- Having now particularly described and 25 ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—
- 30 1. Improvement in lawn movers having a non-rotating knife or blade carried by a cutter bar which is rotatably or rockably mounted by means of pins at the ends of said cutter bar, and further provided with a rotating cutting reel having 35 knives or blades coacting with said non-
- rotating knife or blade, said non-rotating knife or blade being maintained in yielding engagement with the knives or blades of said cutting reel by springs supported 40 by the cutter bar, characterized by the fact that said springs are positioned at points distributed along the cutter bar, between said cutter bar and a beam extending along the same and being 45 mounted independently to turn around the same pins as said cutter bar, the position of said beam being adjustable by means of adjusting screws or the like.
2. Improvement according to claim 1, 50 characterised by the fact that the beam is arranged parallelly to and behind the cutter bar, and that said cutter bar is provided with lugs at points suitably distributed between the ends of said cutter bar, said lugs projecting backwards beneath said beam, and said springs comprising compression screw springs inserted between said lugs and said beam.
3. Lawn mover, substantially as herein 60 described with reference to, and as illustrated by the accompanying drawings.

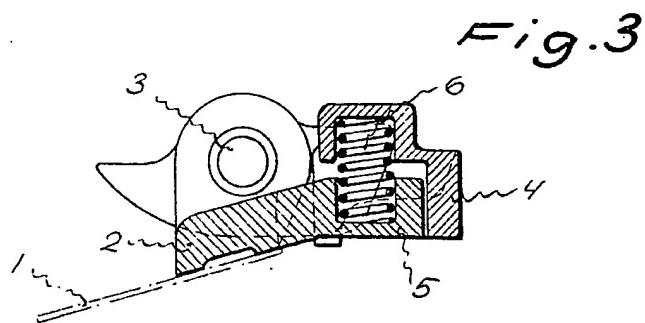
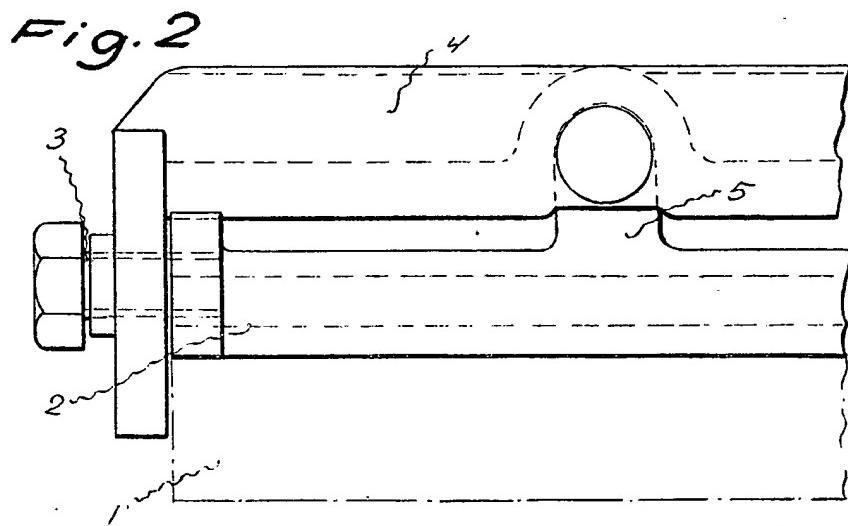
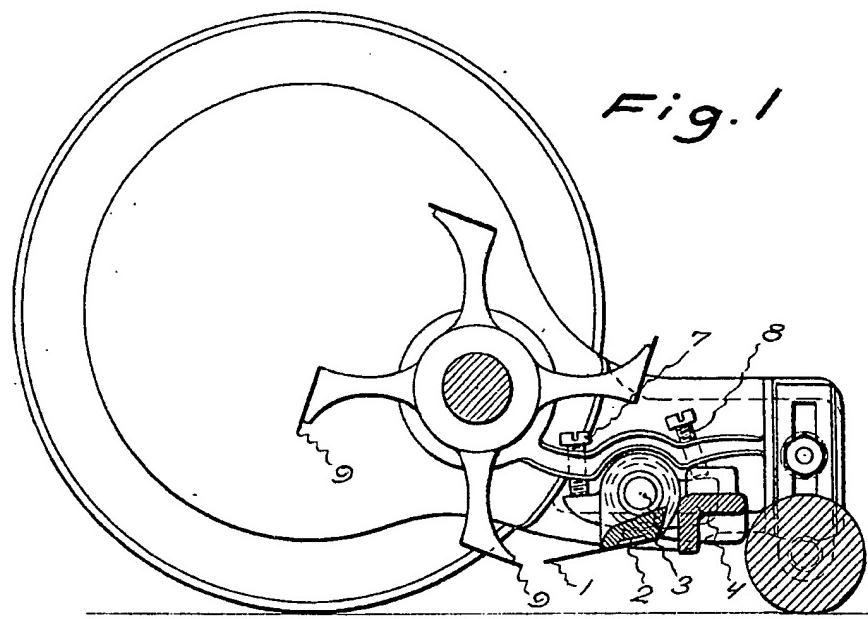
Dated this 7th day of November, 1932.

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[This Drawing is a reproduction of the Original on a reduced scale.]



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